

# Health, Biodiversity and the Future we Want



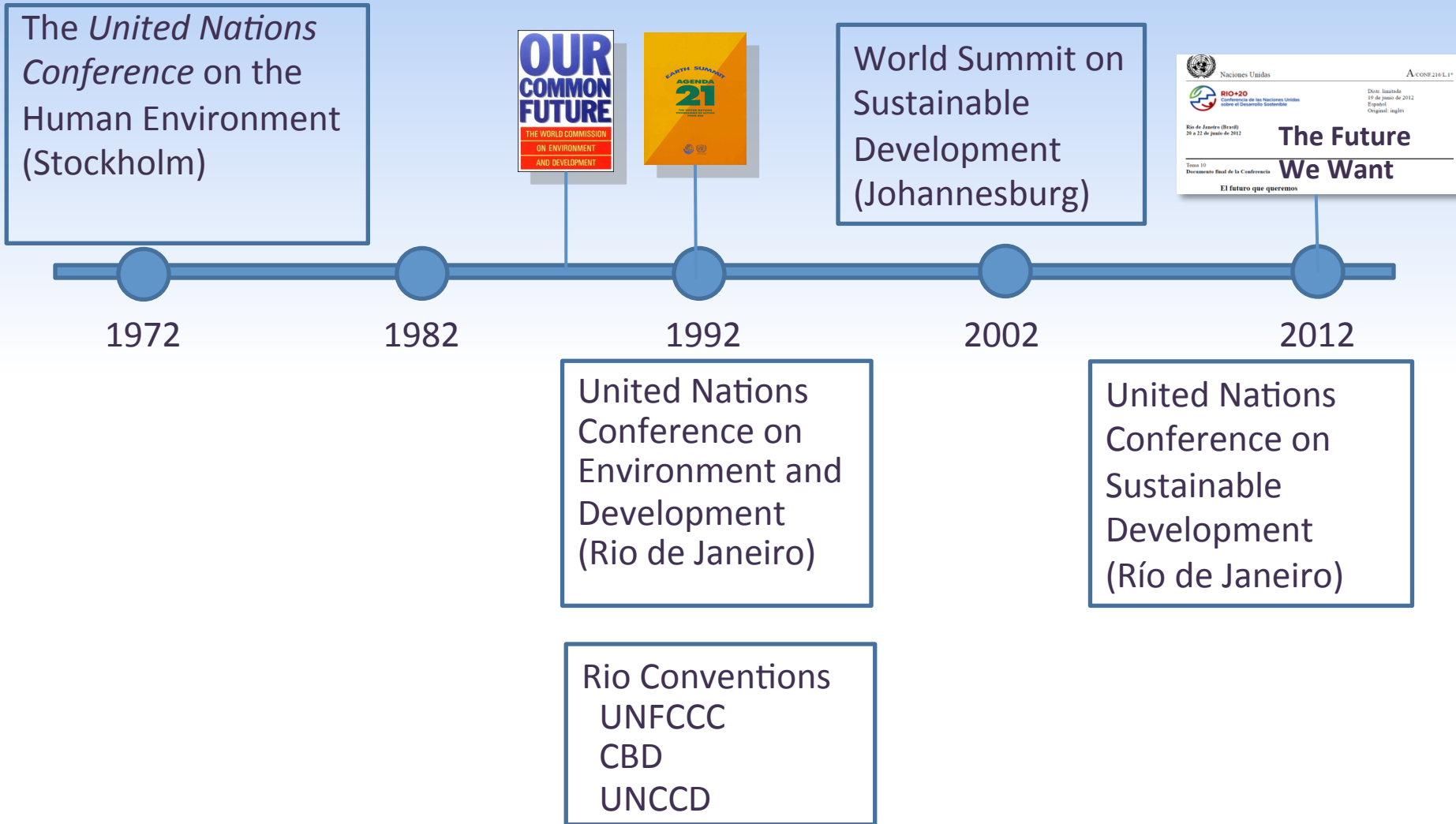
**Carlos Corvalan**  
Pan American Health Organization / World Health Organization



**Pan American  
Health  
Organization**

Regional Office of the  
World Health Organization

# Towards sustainable development: A 40 years process



# Declaration of the United Nations Conference on the Human Environment – June 1972

## PRINCIPLE 1.

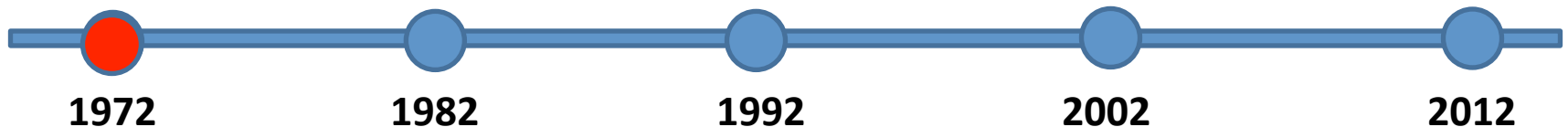
Man has the fundamental right to freedom, equality and adequate conditions of life, in an environment of a quality that permits a life of dignity and well-being, and he bears a solemn **responsibility to protect and improve the environment** for present and future generations. ..

## PRINCIPLE 2.

The **natural resources of the earth**, including the air, water, land, flora and fauna and especially representative samples of natural ecosystems, **must be safeguarded** for the benefit of present and future generations through careful planning or management, as appropriate.

## PRINCIPLE 3.

The **capacity of the earth to produce vital renewable resources must be maintained and, wherever practicable, restored or improved.**

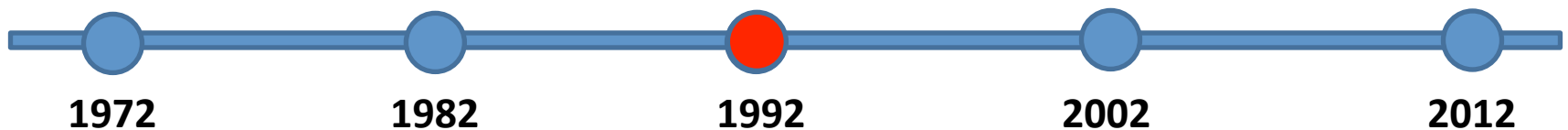


# Rio Declaration on Environment and Development, 1992

## Principle 1

Human beings are at the centre of concerns for sustainable development. They are entitled to a **healthy and productive life in harmony with nature**

June 1992

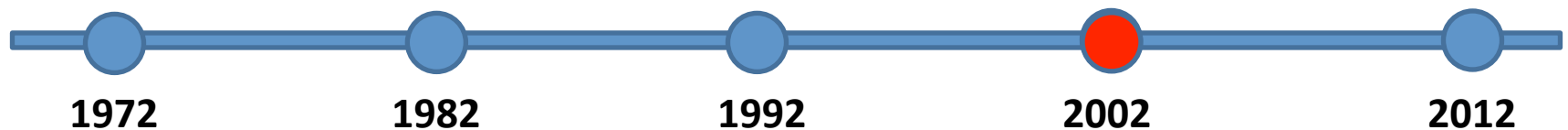


# World Summit on Sustainable Development

## Johannesburg Declaration on Sustainable Development

### From our origins to the future

13. The global environment continues to suffer. Loss of biodiversity continues, fish stocks continue to be depleted, desertification claims more and more fertile land, the adverse effects of climate change are already evident, natural disasters are more frequent and more devastating, and developing countries more vulnerable, and air, water and marine pollution continue to rob millions of a decent life.



# 2012: United Nations Conference on Sustainable Development



## The Future we Want



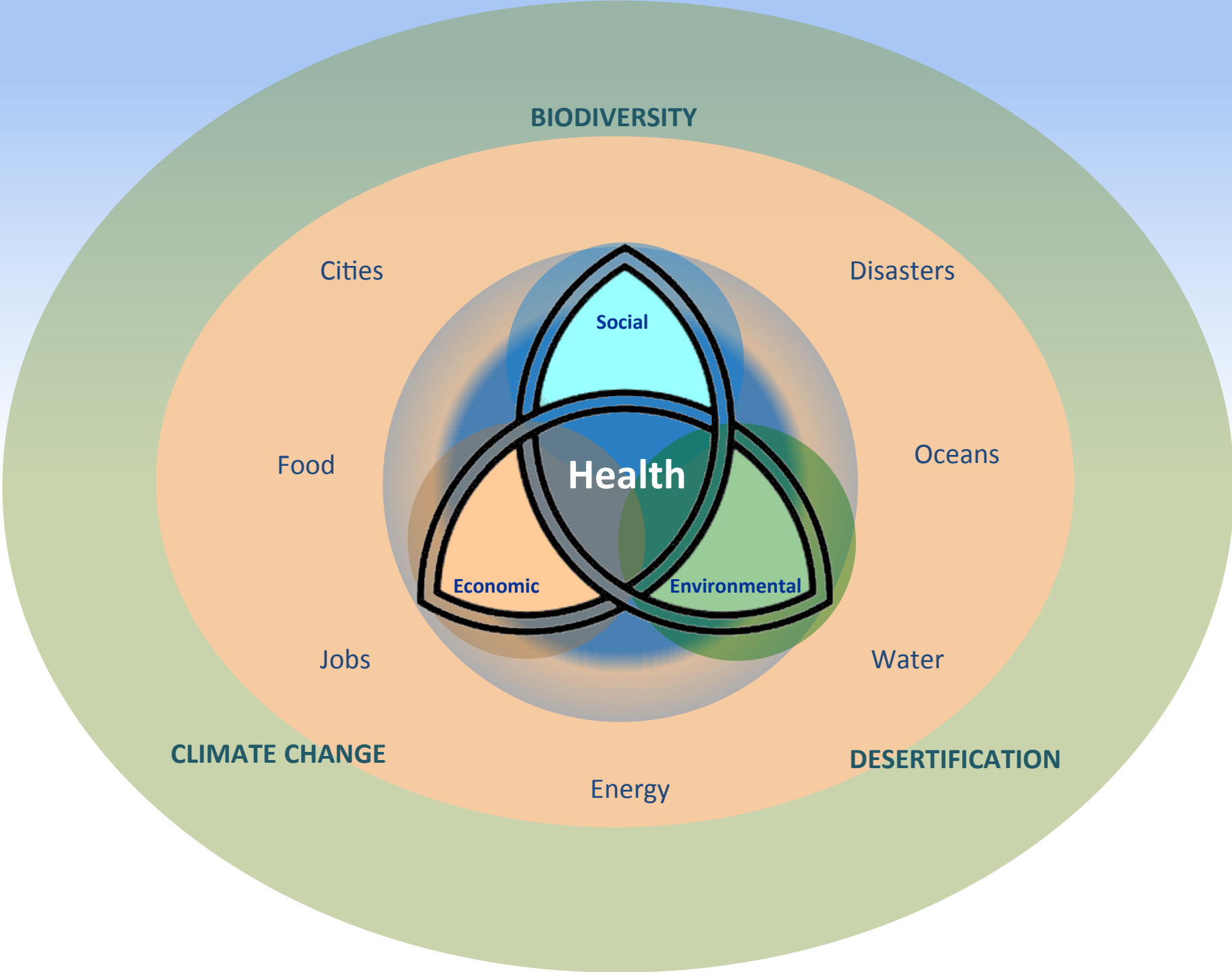
1972

1982

1992

2002

2012



**BIODIVERSITY**

Cities

Disasters

Social

Food

Oceans

**Health**

Economic

Environmental

Jobs

Water

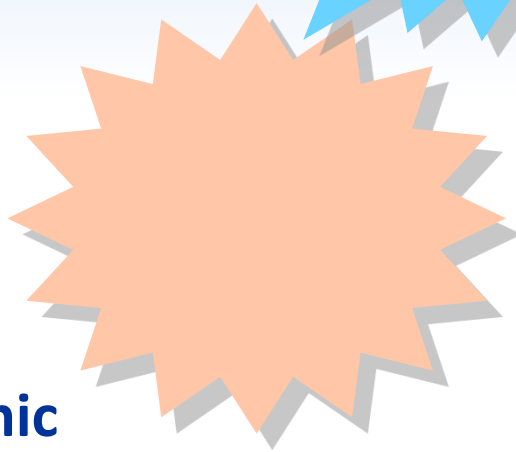
**CLIMATE CHANGE**

Energy

**DESERTIFICATION**

# The Future we DON'T want

**Social**



**Economic**

**Environmental**



# The Future we DON'T want

## Social

Poverty  
Food crisis  
Inequity

Financial crisis  
Energy crisis

Climate change  
Depleted Ecosystems

Economic

Environmental

# The Future we DON'T want

## Social

Poverty  
Food crisis  
Inequity

Health

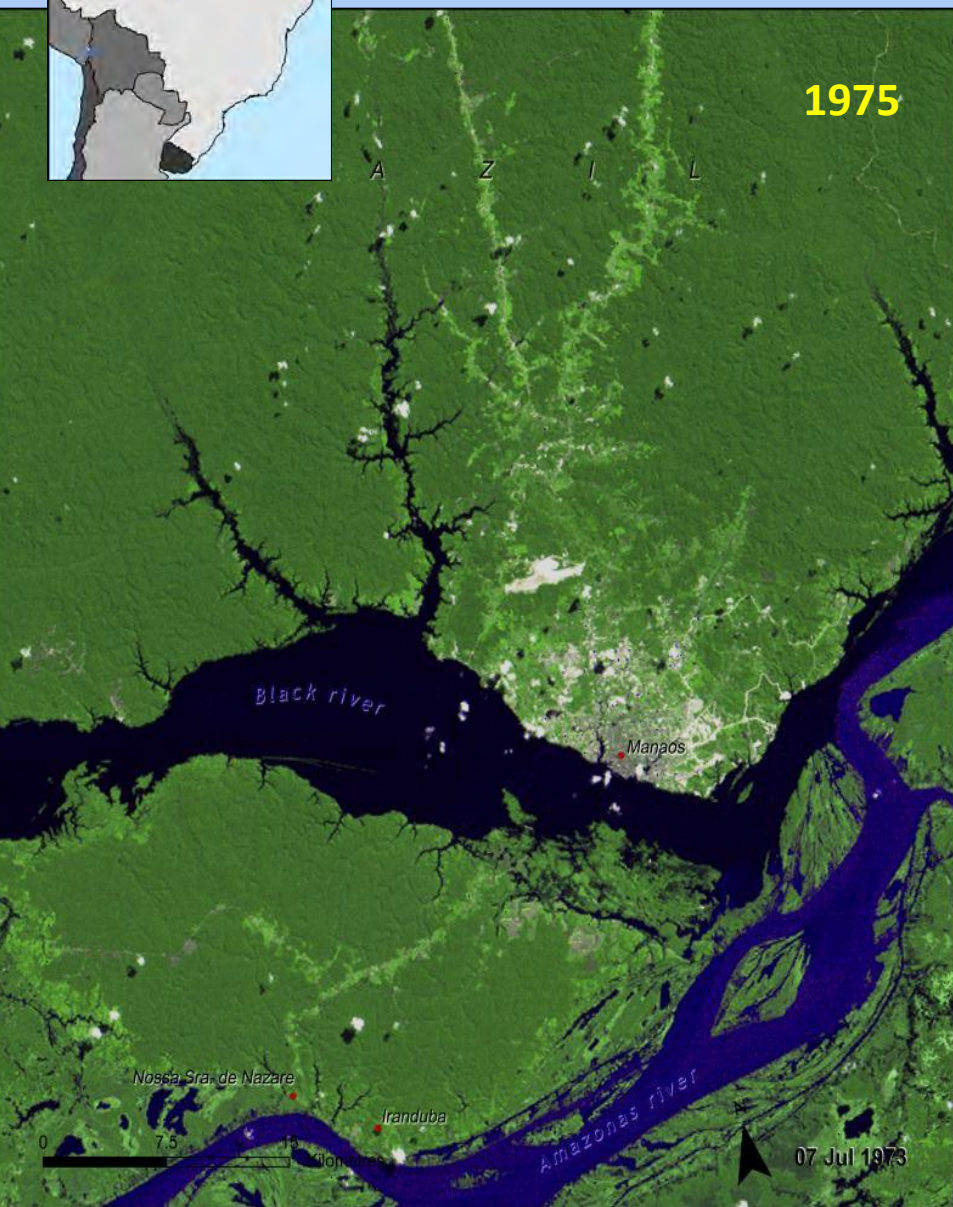
Financial crisis  
Energy crisis

Climate change  
Depleted Ecosystems

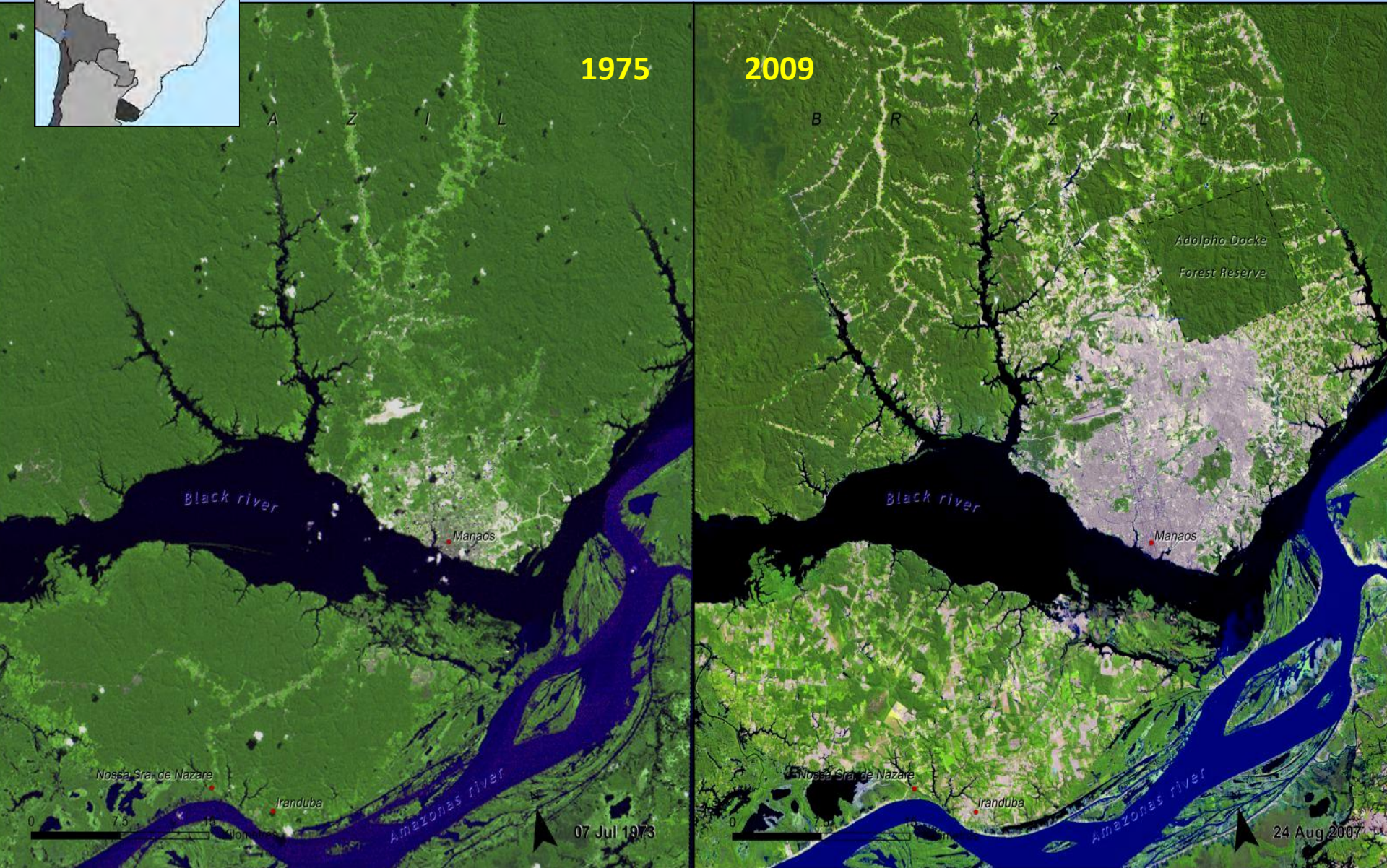
Economic

Environmental

# Manaus, Brazil – Rapid population increase between 1975 and 2009



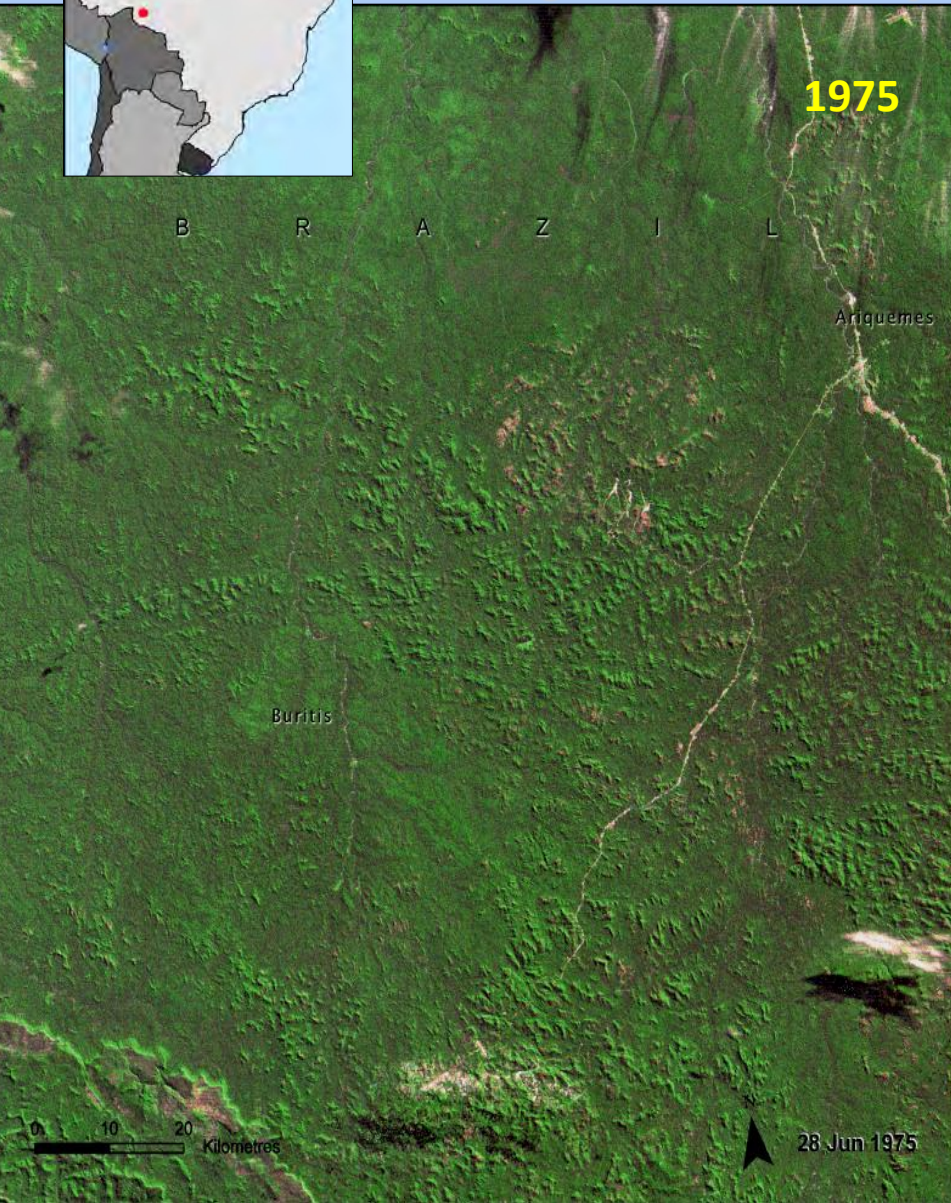
# Manaus, Brazil – Rapid population increase between 1975 and 2009



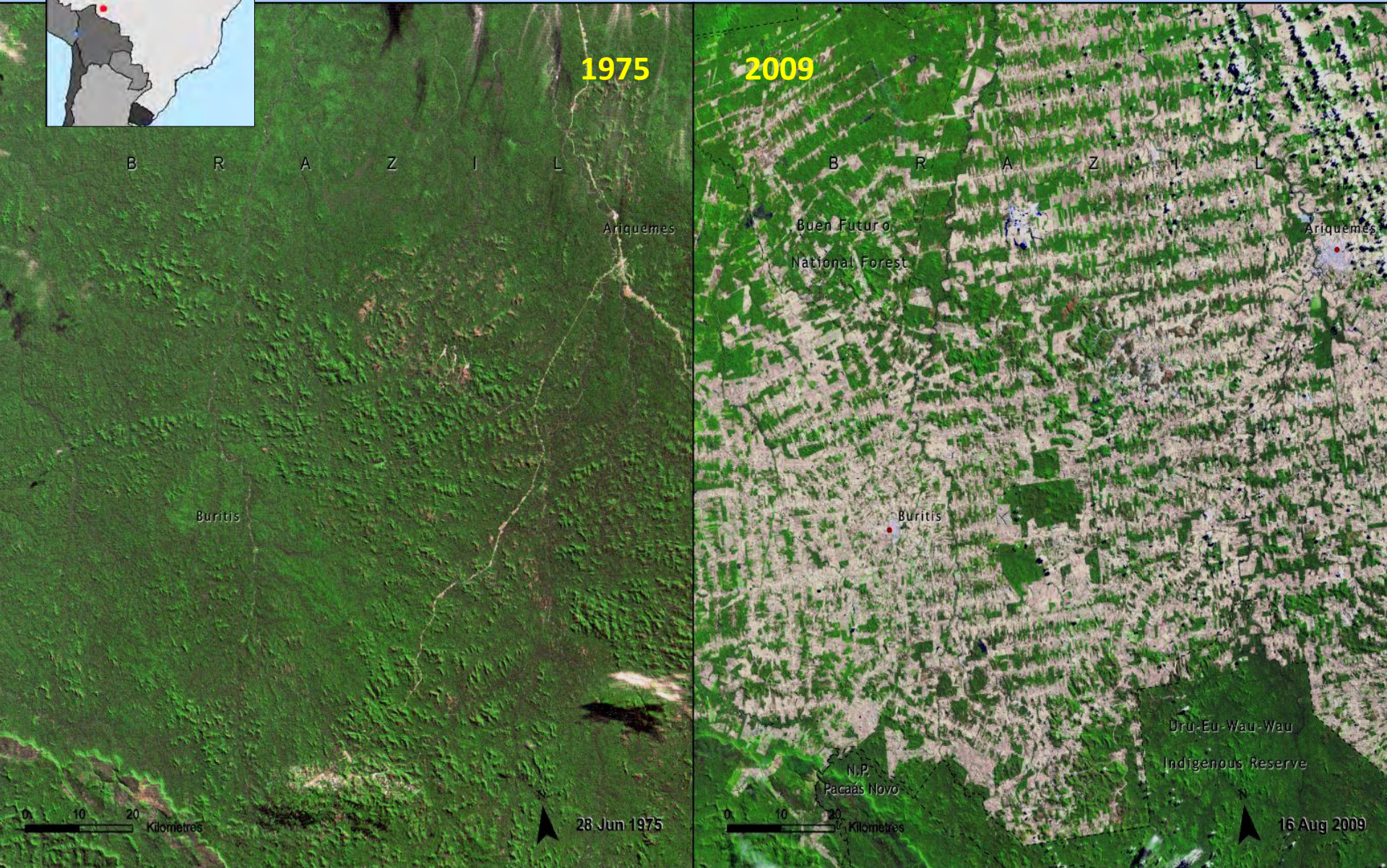


Anama, 160 Km from Manaus. May 2012

**Rondônia, Brazil** – Deforestation due to population growth, expansion of urban centers, growth of the wood products industry and expansion of the road network.



**Rondonia, Brazil** – Deforestation due to population growth, expansion of urban centers, growth of the wood products industry and expansion of the road network.



Many of the elevated health risks from environmental change are faced by the most marginalized populations:

poor communities and indigenous communities facing environmental changes driven by economic processes in other parts of the world

often especially vulnerable to disease risk as a result of multiple stresses

having few resources for combating global environmental change, and with little voice in the decision-making of local, regional, national or global policy institutions.





# Health in the Future We Want



Naciones Unidas

A/CONF.216/L.1\*



**RIO+20**  
Conferencia de las Naciones Unidas  
sobre el Desarrollo Sostenible

Distr. limitada  
19 de junio de 2012  
Español  
Original: inglés

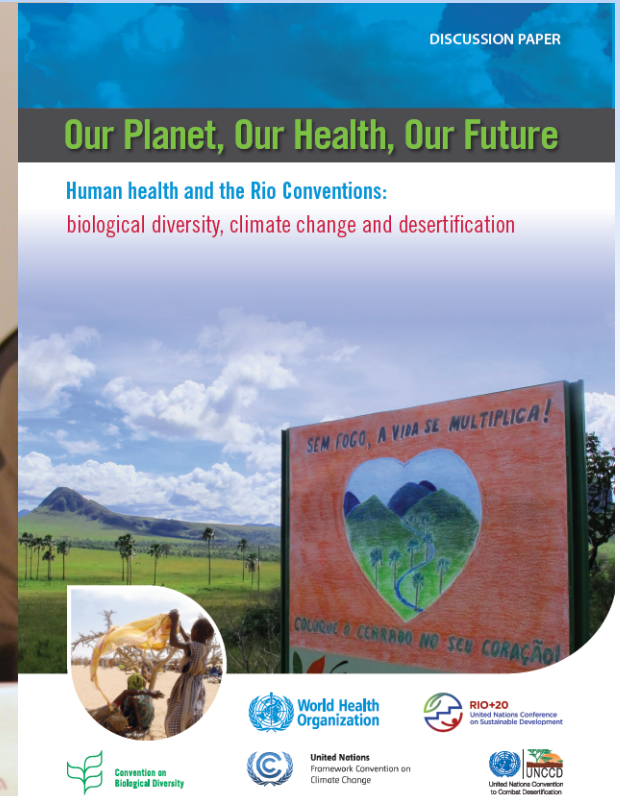
Río de Janeiro (Brasil)  
20 a 22 de junio de 2012

Tema 10  
Documento final de la Conferencia

**El futuro que queremos**

**“We recognize that health is a precondition for and an outcome and indicator of all three dimensions of sustainable development “**

# Health in the Rio Conventions – June 2012



Source: IISD <http://www.iisd.ca/uncsd/rio20/pavilion/21jun.html>

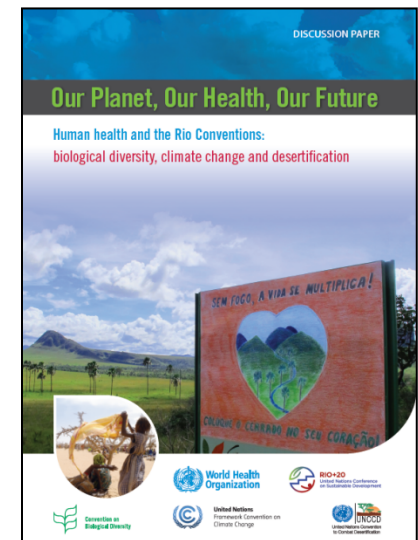
[http://www.who.int/globalchange/publications/reports/health\\_rioconventions.pdf](http://www.who.int/globalchange/publications/reports/health_rioconventions.pdf)

***“Biodiversity underpins the functioning of the ecosystems on which we depend for food and fresh water, health and recreation, and protection from natural disasters”***

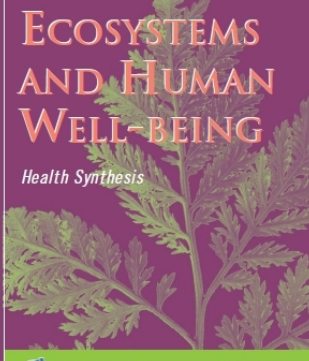
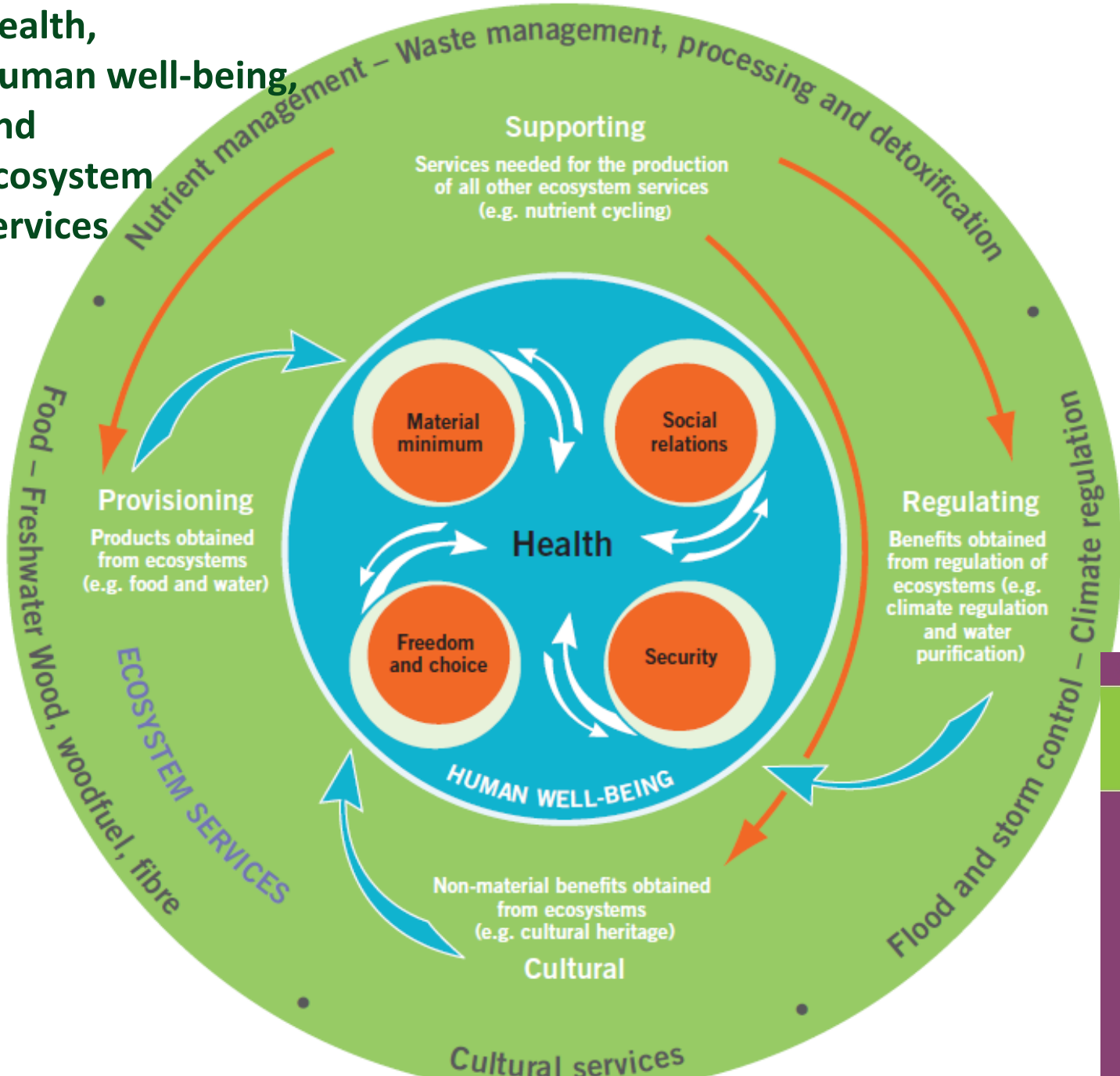
Ban Ki-moon, UN Secretary-General, Global Biodiversity Outlook 3

Human health ultimately depends on ecosystem services that are made possible by biodiversity and the products and services derived from them.

Biodiversity can be considered as the foundation for human health.



**Health,  
Human well-being,  
and  
Ecosystem  
services**



## Health and the Aichi Biodiversity Targets

*Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services*

### **Target 14**

By 2020, ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.

Health topic	Health sector opportunity	Benefits to biodiversity (Aichi Targets)
<p><b>Food</b></p> <ul style="list-style-type: none"> <li>• Species, varieties and breeds incl. domesticated and wild components</li> <li>• Diversity of diet</li> <li>• Ecology of production systems</li> <li>• Total demand on resources</li> </ul>	<p><b>Direct</b></p> <ul style="list-style-type: none"> <li>• Recognize and promote dietary diversity, food cultures and their contribution to good nutrition</li> <li>• Recognize synergies between human health and sustainable use of biodiversity (e.g. moderate consumption of meat)</li> </ul> <p><b>Indirect</b></p> <ul style="list-style-type: none"> <li>• Promote sustainable production harvesting and conservation of agricultural biodiversity</li> </ul>	<p>T1 (values of biodiversity)  T4 (sustainable production and consumption)  T5 (reduce habitat loss)  T6 (sustainable harvesting)  T7 (sustainable management)  T13 (genetic diversity)  T14 (ecosystem services)</p>
<p><b>Water</b></p> <ul style="list-style-type: none"> <li>• Water quantity</li> <li>• Water quality</li> <li>• Water supply</li> </ul>	<p><b>Direct</b></p> <ul style="list-style-type: none"> <li>• Integrate ecosystem management considerations into health policy</li> </ul> <p><b>Indirect</b></p> <ul style="list-style-type: none"> <li>• Promote protection of ecosystems that supply water and promote sustainable water use</li> </ul>	<p>T1 (values of biodiversity)  T5 (reduce habitat loss)  T8 (reduce pollution)  T9 (invasive alien species)  T11 (protected areas)  T14 (ecosystem services)</p>
<p><b>Diseases</b></p> <ul style="list-style-type: none"> <li>• Disease source and regulation services</li> <li>• Ecosystem integrity and diversity</li> </ul>	<p><b>Direct</b></p> <ul style="list-style-type: none"> <li>• Integrate ecosystem management considerations into health policy</li> </ul> <p><b>Indirect</b></p> <ul style="list-style-type: none"> <li>• Promote ecosystem integrity</li> </ul>	<p>T1 (values of biodiversity)  T2 (poverty reduction strategies)  T5 (reduce habitat loss)  T8 (reduce pollution)  T9 (invasive alien species)  T14 (ecosystem services)</p>

Health topic	Health sector opportunity	Benefits to biodiversity (Aichi Targets)
<p><i>Traditional and modern medicine</i></p> <ul style="list-style-type: none"> <li>• Traditional medicines</li> <li>• Drug development (genetic resources and traditional knowledge)</li> <li>• Chemical and pharmaceutical accumulation in ecosystems</li> </ul>	<p><i>Direct</i></p> <ul style="list-style-type: none"> <li>• Recognize contribution of genetic resources and traditional knowledge to medicine</li> <li>• Recognize and monitor impacts of drug accumulation (human, veterinary and agricultural sources) on ecosystems</li> </ul> <p><i>Indirect</i></p> <ul style="list-style-type: none"> <li>• Protect genetic resources and traditional knowledge and ensure benefit sharing</li> </ul>	<p>T1 (values of biodiversity)  T5 (reduce habitat loss)  T13 (genetic diversity)  T14 (ecosystem services)  T16 (Nagoya Protocol)  T18 (local/traditional knowledge)</p>
<p><i>Physical, mental and cultural well-being</i></p> <ul style="list-style-type: none"> <li>• Physical and mental health</li> <li>• Cultural and spiritual enrichment</li> </ul>	<p><i>Direct</i></p> <ul style="list-style-type: none"> <li>• Integrate “value of nature” into health policy, including mental health and noncommunicable diseases</li> </ul> <p><i>Indirect</i></p> <ul style="list-style-type: none"> <li>• Promote protection of values, species and ecosystems</li> </ul>	<p>T1 (values of biodiversity)  T2 (poverty reduction strategies)  T11 (protected areas)  T12 (preventing extinctions)  T13 (genetic diversity)  T14 (ecosystem services)  T18 (local/traditional knowledge)</p>
<p><i>Adaptation to climate change</i></p> <ul style="list-style-type: none"> <li>• Ecosystem resilience</li> <li>• Genetic resources (options for adaptation)</li> </ul>	<p><i>Indirect</i></p> <ul style="list-style-type: none"> <li>• Promote ecosystem resilience and conservation of genetic resources</li> </ul>	<p>T1 (values of biodiversity)  T3 (reduce negative subsidies)  T5 (reduce habitat loss)  T8 (reduce pollution)  T10 (vulnerable ecosystems)  T14 (ecosystem services)  T15 (ecosystem resilience)</p>

# The Future we Want:

## The links between health and biodiversity

### Health and population

138. We are convinced that action on the social and environmental determinants of health, both for the poor and the vulnerable and for the entire population, is important to create inclusive, equitable, economically productive and healthy societies.

### Biodiversity

197. We recognize the severity of the global loss of biodiversity and the degradation of ecosystems and emphasize that these undermine global development, affecting food security and nutrition, the provision of and access to water and the health of the rural poor and of people worldwide, including present and future generations.



# Health in Sustainable Development | Goals

## Measuring health gains from sustainable development

Sustainable cities • Food • Jobs • Water • Energy • Disaster management

**Measuring health** can tell us how well development is advancing the three pillars of sustainability – social, environmental and economic. Whether it is transport that reduces air pollution, weather-resistant housing, safe drinking-water from sustainable water resources, or clean energy for all, putting health at the heart of strategies ensures broad public benefits, particularly for the poor and vulnerable.

**Indicators of healthy development** can help identify success stories, barriers, and the extent to which benefits of greater economies are equitably distributed. Examples of health-relevant indicators for six Rio+20 themes are presented here: Sustainable cities, Food, Jobs, Water, Energy and Disaster management. For the complete set of tools, visit <http://www.who.int/iaqg>.

### SUSTAINABLE CITIES

More than two-thirds of the global population will be living in cities by 2050. The rapid rate of urban growth has created enormous challenges. The swelling number of slum-dwellers, now more than 800 million people, adds to the need for stronger urban governance. So while cities concentrate opportunities, jobs, and services, they also concentrate health hazards and risks.

Health is an important benchmark of sustainability of urban policies. Health indicators proposed here also reflect progress on urban social equity, environment, and development. Core indicators include:

- **Slum housing improvements that benefit health** – as assessed by well-defined measures for safe, resilient, and climate-adapted structures that also have access to clean energy and basic utilities;
- **Urban air quality measures of particulate pollution** – with reference to WHO air quality guidelines;
- **Healthy, efficient transport** – in terms of safety and use of sustainable modes, including walking, cycling, and public transport;
- **Urban violence** – in terms of intentional homicides.

Governance indicators also are important to assess: how cities account for health in urban planning and building codes, and in the monitoring/reporting on air and water quality and sanitation risks. Indicators of access to urban services essential to public health and sustainable cities also are important to consider. These may include access to health care services, green spaces, fresh food markets, and waste management.

### Health in the green economy

### WATER

Measurement of access to safe and climate resilient drinking-water resources, as well as sanitation, is increasingly critical in an era of continued population growth and climate change. Ensuring access to safe, resilient and sustainable water and sanitation will accelerate attainment of multiple environment and health-related goals for sustainable development.

- **Indicators of access to safe drinking-water** require greater refinement to reflect the large, continuing gaps in access to safe drinking water among the world's poorest populations, and measure progress towards attainment of the universal right to water.
- **Monitoring access to adequate climate-resilient water and sanitation systems** is particularly critical in light of the increasing impacts of temperature change and extreme weather on water sources, sanitation systems and human health.
- **Greater inclusion of public health agencies in Integrated Water Resource Management (IWRM)** will accelerate the broader application of IWRM, which provides a comprehensive and multidisciplinary approach for the identification and management of water-related health risks.

### ENERGY

Health offers a universal indicator of progress in attaining the UN Secretary General's goals for Sustainable Energy for All:

- Close to 1.3 million deaths annually are due to urban air pollution. Some 2 million people die from household air pollution every year. Improving household access to modern energy sources, while shifting to cleaner and more efficient modes of community energy generation and distribution, can reduce health impacts from both indoor and outdoor pollution. This will benefit millions of people today and contribute to long-term health by reducing the escalating impacts of climate change.
- **Monitoring reductions in air pollution-related diseases provides an important measure** of the social gains from a shift to more sustainable energy.
- **Progress in transition to more efficient energy generation and distribution, including greater use of renewables**, is also important to health.

Some key health-relevant indicators of progress on sustainable energy include measurement of:

- Household access to modern, low-emissions heating and cooking technologies;
- Electricity access at home and in health facilities;
- Burden of air pollution-related diseases and injuries;
- Health equity impacts of energy policies;
- Clean electricity power generation across the energy supply chain – in terms of pollution and greenhouse gas emissions and a shift to renewable energy.

### Health in the green economy

### FOOD

Many food-related diseases and conditions – including undernutrition, micronutrient deficiencies, and obesity as well as food safety risks and farmworker health – are intertwined. Sustainable food policies that align the promotion and protection of health at the core of strategies from the farm field to the dinner plate can help advance the provision of sustainable, quality foods for all, across the supply chain and the human life-cycle. Health indicators that can be used to monitor progress include:

- **Health outcomes:** prevalence of anaemia in women, particularly of reproductive age; prevalence of stunting in children under 5 years; and prevalence of obesity in children under 5 and in adults.
- **Food access and dietary quality in association with sustainable food production:** equitable access to protein; supply; excessive adult saturated fat consumption; household dietary diversity; and prevalence/incidence of foodborne disease outbreaks.
- **Food market/policy supporting health and sustainability:** foods that comply with international food safety standards including hormones, pesticides, and antibiotic residues; number of countries that have phased out use of antibiotics in growth promoters; and assessment of health and sustainability impacts in agricultural trade negotiations, policies, and plans.

### JOBS

A healthy workforce is a prerequisite for social and economic development. For terms of employment and decent working conditions are critical to the health of the working-age population.

- **More systematic measurement and reporting of workers' health** can help reduce unexplained injuries, illnesses, and deaths. In 2011, an estimated 2.3 million people died from work-related injuries, illnesses, and accidents.
- **Compliance with basic national occupational safety and health standards**, at country level and by sector, can support improved workers' health, including in the transition to a green economy.
- **Monitoring progress on the ratification and implementation of core international labour conventions** covering occupational safety and health practices and occupational health services is a third measure supporting improved workers' health and safety.

### DISASTER MANAGEMENT

Health system resilience and capacity for emergency risk management are critical to effective disaster management that supports long-term goals of sustainable development.

- **Monitoring and reporting on the human health aspects of disasters** – as part of measures to improve risk assessment, prevention, preparedness, response, and recovery – is important for strengthening disaster risk management. This will help reduce health impacts, particularly the loss of human lives.
- **Building health system resilience and capacity for emergency risk management**, particularly at a community level, is critical to effective disaster management.
- **Indicators of health system resilience to natural disasters include the proportion of health facilities, new and improved, to withstand hazards**, and with access to reliable clean energy and water supplies, routinely and in emergencies.

### Health in the green economy

**References**

1. World Health Organization. The World Health Organization's role in the Rio+20 Summit. <http://www.who.int/iaqg>. 2012.

2. United Nations Secretary-General's High Level Panel of Experts. <http://www.un.org/News/Press/docs/2012/05/20120517.unhcrp.html>. 2012.

3. World Health Organization. <http://www.who.int/iaqg>. 2012.

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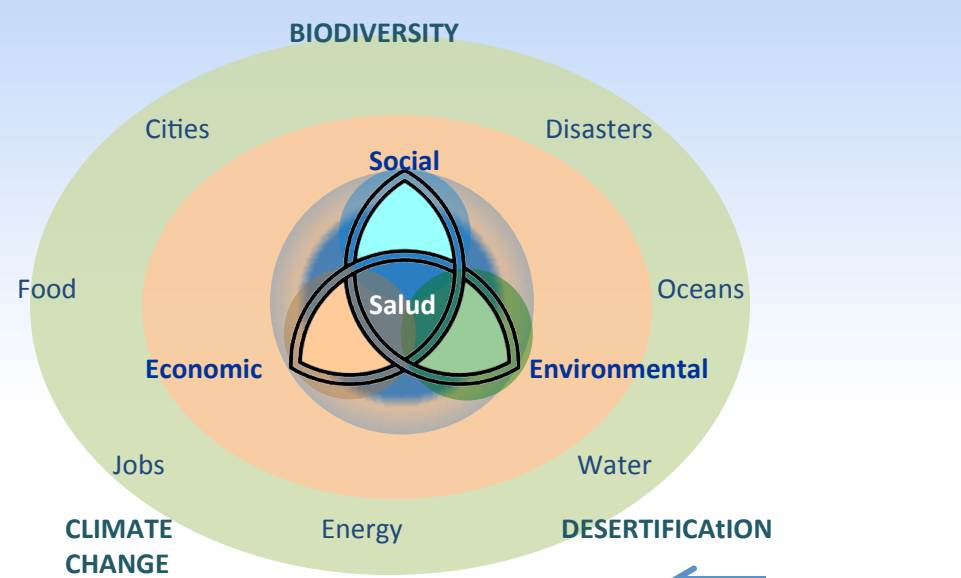
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5. World Health Organization. <http://www.who.int/iaqg>. 2012.

### Health in the green economy



<http://bit.ly/IQGHgE>

[http://www.who.int/hia/green\\_economy/sustainable\\_development\\_summary1.pdf](http://www.who.int/hia/green_economy/sustainable_development_summary1.pdf)





We have only one Mother Earth

## **Acknowledgements:**

**“Pachamama”. Bordado por el grupo brasileño “ Matizes Bordados Dumont”, basado en un diseño original de Gilles Collette (OPS), creado como una identidad visual para el tema del Día Mundial de la Salud 2008 “Protegiendo la Salud del Cambio Climático”**